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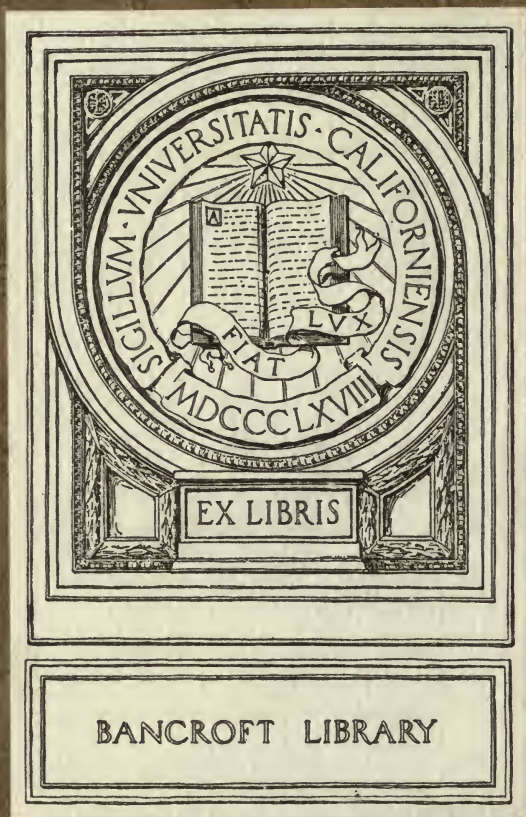
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ARIZONA MINING COMPANY,

Its Mines, Property and
Organization.

1863.

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No. 461.

THE
ARIZONA MINING COMPANY,
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DAVISON & WARD, Printers,
43 Montgomery Street,
Jersey City.

ARIZONA MINING COMPANY.

ORGANIZED under the Incorporation Law of the State of New York.

Its capital is divided into 30,000 shares of \$100 each.

Its business is the mining of silver and other ores, and the production of bullion in the New Territory of Arizona.

The headquarters of the company are at the town of Tubac, near the overland mail route to California, by way of El Paso and San Diego, and accessible by a good waggon route of 157 miles in length, to the Gulf of California, at the Ports of Lobos and Libertad.

The property of the company consists of a celebrated ranche, known as Arivaca or Aribac, comprising seventeen thousand acres, on which are found numerous veins of gold and silver, and it abounds in pasturage, tillable land, timber and never-failing water. This property was famous in the days of Jesuit missions. They own also the mines of the Cerro Colorado Mountains, including the famous Heintzelman mine, named in honor of Major General Heintzelman, U. S. A. who superintended and cordially aided its early development.

Over

Over \$100,000 worth of silver has been extracted from this mine, while it was held by the Sonora Exploring and Mining Company, of Ohio, from whom it was purchased; but, the want of a Territorial Government, and military protection, from the thieving Apache Indians, as well as the lack of capital adequate to the effective working, and equipment of the mines, have retarded the success which their richness in the most valuable silver ores, abundantly guarantee.

The Territory of Arizona was organized during the last session of Congress, and its territorial officers are now in the performance of their duty at Tucson, with full military protection, and with power to call for more troops from the commanding general of California, in whose command the Territory is included.

This Territory has an area three times the size of the State of New York: It is bounded on the north and west by California, on the east by New Mexico, and on the south by Sonora, from whence a large supply of skilled, reliable and cheap labor, as well as animals and agricultural produce can be obtained.

Its climate is dry and healthy, and at all seasons of the year favorable to the cheap process of treating silver ore used by the Mexicans, and called the *Patio* process, which is said to be economical for the treatment of the poorer ores, while the richer portions are smelted in furnaces or amalgamated with quicksilver by the "*Freiberg barrel-process*," or an improved "*Washoe process*."

The

The main highway for the transit of supplies and products will be by the waggon road before named, as extending to the ports of Lobos and Libertad, and recently explored and reported on by Major Ferguson, U. S. A.

This road is through a comparatively level country, with numerous villages and a peaceable population engaged in agricultural pursuits and mining.

Up the Gulf of California to Guaymas, Lobos, and up the Rivers Colorado and Gila a vast emigration and supplies of mining tools and necessaries are now pouring to the *placer* gold fields and silver mines of Arizona. Six vessel loads of supplies and tools recently sailed from San Francisco to one commercial house at Fort Yuma, and in a few months when these mines have been visited, and their value known, it is not improbable that like the Washoe mines the price of shares now estimated in tens will be counted in thousands of dollars.

In that northern region of Washoe, which is no richer than the Cerro Colorado, Arivaca, or Santa Rita districts of Arizona—mines which were hawked about the streets of San Francisco by men with bags of specimens, and sold at \$10, \$20 and \$30 per share two years since, are now paying regular monthly dividends of \$100 and \$150 *per share* in gold.

The Ophir Company (mining silver) yielded last year \$3,840,000. The Gould & Curry, about \$1,500,000.

We

We are encouraged to believe from the testimony of all who have seen the mines of this company, that with energy, capital and judgment they may be made equal to any in the world.

The analysis of the ores by scientific men, confirms this view, as they are unsurpassed in richness, and the workings now extended in one shaft to about one hundred and fifty feet in depth, where the vein is found to have gradually widened from three to five feet, together with other smaller openings made along the line of the vein, have clearly demonstrated the permanency and enormous value of the Heintzelman Mine.

A statement is hereto appended, made by Col. Andrew Talcott, late of the Ordnance Department, U. S. A., the last Superintendent of the Ohio Company, at the mines; different analysis of the ores, also some extracts from various writers on the subject of this property, as well as Arizona generally.

The mining for silver on the Pacific slope of the Rocky Mountains has ceased to be an experiment, or a matter of adventurous speculation. It is a legitimate and perfectly safe business, when conducted with ordinary prudence, by men of skill and intelligence.

The coinage of the Mexican Mint during thirty years amounted to \$453,665,367, and Humboldt estimated the products of the mines of Mexico up to 1803 at \$1,767,952,000.

The Fagoaga family, according to Humboldt, derived in the short space of *five months* from a
front

front of one hundred and two feet in the outcropping of a silver mine, a *net profit* of \$4,000,000.

In the mining district of Catorce, in the space of two years and a half, between 1781 and the end of 1783, an ecclesiastic named Juan Flores, mined \$3,500,000 on ground full of chloride of silver and of *Colorados*. The Count de Regla obtained a net profit of over \$5,000,000 in twelve years. For forty years, from 1771 to 1811, the Valenciana mines opened by the Count of that name, yielded annually from \$400,000 to \$600,000, and in some years \$1,250,000 net profit.

Zambrano paid as his tax to government (of one-fifth the proceeds of his mine), \$11,000,000.

Zuniga, owner of the Mine Santa Anna, left to his children \$4,000,000.

The Real del Monte mine, which bears similar ore to that of the Heintzelman, but of an average yield of only \$52 to the ton, has produced in five years, - - - \$11,823,803
 The yield in 1853 was - - - 1,537,769
 “ “ 1857 - - - 3,039,016

These are some of the results of deep mining in Central Mexico, while Humboldt, Ward, Wilson, Muller and Ehrenberg, all concur in the belief, confirmed by the discoveries already made, that the northern mines would produce rich ores nearer the surface.

The richest Mexican mine at the present time is the “Veta Grande.” The product in metal has amounted to 153,000 pounds Troy of silver, realizing

realizing \$2,117,000 per annum, which gave as a net profit to the proprietors \$856,200 per annum. The original investment was \$750,000. Besides paying this back, it has returned 700 per cent. on the original amount invested. This mine has been worked over one hundred years. The latest accounts we have of it say that it was producing some \$200,000 per month.

The Potosi mine was discovered in 1545, and has furnished an amount of silver which Humboldt estimates at \$1,150,000,000. The present annual yield is about \$800,000.

The Gould & Curry mine of Nevada Territory has divided among its stockholders \$1,528,800 in ten months, and at the rate of the past few months, \$2,160,000 a year.

The shares cost the original proprietors \$3, on which \$149 were subsequently paid as assessments.

From the 1st of July, 1861, when they stood at \$350, they rose in the fall of 1862 to \$6,000 per share.

The Spitaler Gang Mines of Hungary have been worked for 800 years.

The mines of Mexico are innumerable, which range from 1,000 to 1,500, and a large number from 1,500 to 2,500 feet in depth.

The present Board of Directors have done all they can to promote the best interest of this company and place it on a firm footing.

Samuel Butterworth, Esquire, formerly in charge of the U. S. Assay Office in New York,
now

now in San Francisco, has, at the earnest solicitation of parties holding the largest interest in this Company, expressed his willingness to take charge of the business of the Company here, and has now gone to examine the mines with C. D. Poston, the Pioneer of that country, and now Superintendent of Indian Affairs.

John D. Maxwell, is the Treasurer, and Charles Hopkins, Secretary of the Company.

The Company have secured the services, as Chief Engineer and Director at the mines, of M. O. Davidson, formerly Chief Engineer of the Maryland Coal Company, lately Chief Engineer of the Havana Rail Road in Cuba.

The indomitable energy, and eminent scientific ability, shown by this gentleman in grappling with engineering difficulties in the Cumberland Coal Region, and in his control of organized labor, his long experience, his knowledge of the Spanish language, and, above all, his high integrity as a man, all combine to give the Company assurance of success, and an honest administration at the mines.

Norman B. Higgins, a pupil of Dr. Genth, of Philadelphia (one of our most eminent analytical chemists), who has had practical experience in mining and metallurgy, the construction of furnaces, &c., and great success in the desulphurization of ores, has been employed by the Company to take charge of the metallurgical operations at the Cerra Colorado. It will, I trust, appear from the foregoing statement of facts,

facts, that the Arizona Mining Company purposes to carry on the legitimate business of mining, and to secure the best talent and highest integrity it can influence; that neither the property may be injured by unskillful mining, or money squandered in useless experiments.

If a reasonable time be accorded for the development of so large a property, the Directors of this enterprise are confident of obtaining results which will satisfy any rational man.

W. M. B. HARTLEY.

New York, 1 Dec., 1863.

APPENDIX.

The following is a report made to the Sonora Exploring and Mining Company by Col. Talcott, in 1861 :—

“Report showing the quantity and value of Silver Ore yielded by the Heintzelman Mine, how disposed of, and where that on hand is situated, on the 1st of July, 1860.

	<i>Pounds.</i>
Sold and taken by purchasers to Sonora, - - -	3,880
Sent by the Company to San Francisco, - - -	44,037
Sent by the Company to Cincinnati, - - -	1,400
Smelted by the Company, - - - - -	18,991
Reduced by amalgamation at the Arivaca Works of the Company, - - - - -	586,700
Total Sold and Reduced, - - -	655,008
Remaining at Cerro Colorado, - - - - -	129,500
On hand at Arivaca, - - - - -	443,700
Total Ore on hand, - - - - -	573,200
Total product of the Mine, - - -	1,228,208
The 655,008 lbs. Sold and Reduced yielded the Company	\$45,010 28
Allow for Ore on hand \$90 per ton, - - - - -	25,794 00
Value of Ore raised, - - - - -	\$70,804 28

NOTE.—Except at great expense the area of the vein that has been worked out, cannot be measured. Mr. Poston, the Superintendent, estimates it at less than 9,000 square feet. Assuming this to be correct, the average yield to a square foot of the vein has been about one hundred and thirty-six pounds of ore, and of the value

value of \$7 87. At this rate 1,000 lineal feet of the vein worked to the depth of only six hundred feet, would produce ore to the value of \$4,722,000.*

The accompanying sketch shows the working as far as accessible at this time. All the working from the surface has been filled in.

(S'd) ANDREW TALCOTT,

Arivaca, July 23, 1860."

A report, made and published in the Mining Magazine and Journal of Geology, Vol. XII, No. 65, by Professor Blake, late United States Geologist in California, gives a succinct account of silver and copper mining in Arizona, and the following assays of silver ores from the Heintzelman Mine.

The average of eight assays are as follows:—

	Grains per lb.	Value per lb.	Value per ton of 2,000 lbs. of ore.
Affay by Professor Booth, - -	247.80	0.67	\$1,342 00
" " " - -	87.64	0.2375	475 00
" " Torrey, - -	51.99	0.16	322 94
" " Locke, - -	79.10	0.2150	428 46
" " E. Kinsey, -	239.40	0.6483	1,296 60
" " " - -	525.00	1.4218	2,843 60
" Mining Eng. Tubac,	345.33	0.935	1,870 40
" " " - -	520.00	1.4075	2,816 60
Total eight assays, - -	2096.26	5.69.13	\$11,395 60
Average, - - - - -	262.03	0.71.14	\$1,424 45

The first assay made by any competent authority was done by Louis A. Garnett, of the United States

* The vein has been explored for a distance of two miles.

States Branch Mint, San Francisco, with the following result to the ton of 2,000 pounds:—

Silver - - - - -	7,040 ounces, value	\$8,624 00
Copper - - - - -	278 pounds, “	111 20
		<hr/>
		\$8,735 20

Recent assays by Dr. Jackson, of Boston, showed the presence of from thirteen to sixteen per cent of silver, and thirty-seven to thirty-eight per cent of copper.

He regards the ore as a stromeyerite or sulphuret of silver and copper.

Massive samples of the ores, as they come from this mine, may be seen at the office of the Company.

According to Humboldt and Ward, the average yield of the mines of Mexico is two and one-half ounces of silver to the one hundred pounds. The value of ore per ton, of 2,000 pounds, is \$65. Bancroft Library

The Rancho belonging to this Company is thus described by a report of the Engineer who first surveyed it:—

“The Arivaca has much beautiful meadow land, fine pasture on the low surrounding hills for thousands of cattle, live oak grows in the gulches, mesquite on the hills, and on the lower ends of the streams it is thickly lined for five or six miles with groves of cottonwood, ash, walnut, and other useful woods for farming and mining purposes, in sufficient quantities to answer all the demands of the two districts.”

Since

Since this time an accurate topographical survey has been made of the ranche by Col. A. B. Gray, formerly Surveyor of the Mexican Boundary Commission.

The titles to this ranche were examined by Hon. Thomas Corwin, then an eminent jurist of Ohio, and now Minister to Mexico, and he gave his opinion "that the titles exhibited to him give the Company a perfect fee simple in both the soil and minerals of that property."

A decision of the Supreme Court of the United States, in relation to the Mariposa claim of Gen. Fremont, confirms this opinion.

The property is in full and undisputed possession, and no adverse claims exist.

The accompanying map will show the position of the Company's property in its relations to the overland route and ports on the Gulf of California, the nearest of which latter is only one hundred and fifty-seven miles distant, called Libertad, which is described, in a recent San Francisco paper, as "having been adopted by the United States Government for the transport of the army supplies to Arizona and the Mesilla Valley, and the eventual grand depot of the increasing trade between California, Arizona, Sonora, &c.

WHIPPLE'S REPORT

Of the Explorations and Surveys of the Pacific Rail Road, Vol. III, Part 3, pages 107-8, gives the following extract:—

FATHER MARCO DE NICA'S REPORT.

In the year 1539, describes the City of Cevola as "situated upon a plain, at the foot of a round hill, and maketh shew to be a fair city; and is better feated 'than any that he has seen in these parts. The houses were builded in order,' according as the Indians had told him; 'all made of stone, with divers stories and flat roofs.' The people are somewhat White; they wear apparel, and lie in beds; their Weapons are bows; they have Emeralds and other jewels, although they esteem none of much as Turquoises, wherewith they adorn the walls of the Porches of their houses, and their apparel and vessels; and they use them instead of Money throughout all the Country. They use vessels of Gold and Silver, for they have no other Metal. Whereof there is greater use and more abundance than in Peru, and they buy the same for Turquoises in the Province of the Pintados; where there is said to be Mines of great abundance." In the mountains, near the Valley of Tucson,
and

and Santa Cruz, where I have located the Pintados, there are known to be rich Mines of Silver; and Gold is said to be abundant. As the region now belongs to the United States, it is probable the Mines will be worked.

EXTRACT

From Lieut. Parke's Report of the Pacific Rail Road Survey, 1853. Vol. VII, Page 33.

In Appendix C will be found a literal translation of a copy of an Archive of the town of Tucson, which will afford some interesting information concerning that section of the country.

It was copied from the original by permission of Ensign Jose Comaduran, M. A., who had temporary command of that post, previous to the completion of the boundary line, according to the provisions of the Treaty.

It will be seen, from a perusal of this paper, that mention is made of many localities where gold and silver have been found in abundance. The inhabitants of Tucson, at the present day, confirm all these statements, and many rich specimens of gold scales and quartz specimens were exhibited, and their localities described and pointed out. The difficulties of working the placers and veins of these precious metals consist chiefly

chiefly in the want of water, the want of proper implements, and in the dangers to which "prospectors" and miners are subjected by the roving bands of Apaches, who dwell in the mountain fastnesses. There is little doubt but that the entire section recently acquired by the Gadsden treaty is nearly as rich in Minerals and Metals as California, and the construction of a rail or wagon road, and the establishment of frequent military posts, will serve to develop speedily the immense resources of this nature, which now lie hidden in the mountain gorges, or beneath the surface of the wide-spread plains.

EXTRACT

From R. A. Wilson's "History of Mexico."
Page 387.

He says, proceeding northward, we came to a spot the most famous in the world for its products of silver: the Mine of *Arazuma*.

For near a century, the accounts of the wealth of this mine were considered fabulous; but their literal truth is confirmed by the testimony of the English Ambassador.

After examining the old records which I have quoted, I have no doubt that the facts surpassed the astonishing report; for in Mexico, the propen-
 sity

penfity has ever been to conceal rather than over-estimate the quantity of filver, on account of the King's fifth; yet is the King's fifth *actually paid*, on which all the estimates of the production of Sonora filver mines are based.

Arazuma (which, in the report of the Minería that I have translated for this volume, appears to be fet down as Arizpa) was, a hundred years ago, the world's wonder, and fo continued until the breaking out of the great Apache war, a few years afterward.

Men feemed to run mad at the fight of fuch immense mafses of virgin filver, and for a time it feemed as if filver was about to lofe its value. In the midft of the excitement, a royal ordinance appeared, declaring Arazuma a "creation of filver" (*creador de plata*), and appropriating it to the King's use.

This put a ftop to private enterprife; and, after the Indian war fet in, Arazuma became almost a forgotten locality; and in a generation or two afterward, the accounts of its mineral riches began to be difcredited.

We have the following record in evidence of the mafses of filver extracted at Arazuma.

Don Domingo Afmendi paid duties on a piece of virgin filver which weighed two hundred and feventy-five pounds.

The King's Attorney (*fifcal*) brought fuit for the duties on feveral other pieces, which together weighed 4,033 pounds.

Also, for the recovery, as a curiosity, and, therefore,

therefore, the property of the King, of a certain piece of silver of the weight of 2,700 pounds.

This is probably the largest piece of pure silver ever found in the world, and yet it was discovered only a few miles distant from the contemplated track of our Pacific Rail Road.

The first part of the paper is devoted to a general
 consideration of the subject, and to a statement of the
 objects of the present inquiry. It is then divided into
 three parts, the first of which is devoted to a
 description of the various species of the genus
 and to a statement of their geographical distribution.
 The second part is devoted to a description of the
 habits and life history of the various species, and
 to a statement of their economic importance.
 The third part is devoted to a description of the
 various methods of control, and to a statement of
 their relative merits and demerits.



